

GEO Tsunami Working Group on Tsunami Activities

ESA Headquarters, Paris

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Report (Version 0.2 (Comments from Tilo Schoene))

Written by

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Participants:

Jose Achache, GEO Secretariat (*Director, GEO Sec*)
Ezio Bussoletti, UNESCO (*Italy Representative*)
James Devine, USGS (*USA Representative*)
Peter Dexter, Australian Government (*Australia Representative*)
Maryam Golnaraghi, WMO (*WMO Representative*)
David Green, NOAA (*USA Representative*)
Domenico Giardini, ETH (*FDSN Representative*)
Hormoz Modaresi, BRGM (*IGOS-P Geohazards*)
G. Papadopoulos, ATG Observatory (*Greece Representative*)
Begonia Perez Gomez, Puertos del Estado (*Spanish Representative*)
Hans-Peter Plag, UNR (*IAG Representative*)
Alain Retiere, UNOSAT (*UNOSAT Representative*)
Tilo Schoene, GFZ Potsdam (*IAG Representative*)
Davide Stevens, UNOOSA (*UNOOSA Representative*)
Guy Weets, EC (*EC Representative*)
Ulrich Wolf, UNESCO (*UNESCO Representative*)

Agenda:

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- c. Outcomes of the EC Info-Day on Tsunami Early Warning Systems (Guy Weets)

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- i. Update on UNOOSA-DMISCO Davide Stevens)

- ii. Update on WMO disaster strategy (Maryam Golnaraghi)
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- v. Discussion of GEO's position vis a vis these initiatives

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4 Any Other Business

a. Working Group Representation in International Events (e.g. EWCIII, IGARSS06)

b. Date and Place of the next Working Group Meeting

c. Others

Introduction

a. Approval of 2nd Meeting Minutes

This point was not considered.

b. Discussion/Approval of Agenda

The agenda was accepted as proposed. In a brief round of introduction the participants introduce themselves.

c. Outcomes of the EC Info-Day on Tsunami Early Warning Systems (Guy Weets)

Guy Weets reported on the new Call for Proposals, i.e. Call 6 of IST, which is under International cooperation. The call is for an early warning system for geohazards. Target countries are the Mediterranean countries, Indonesia, Thailand, etc. and countries like New Zealand, Japan, and the USA are also included. The objective is to develop, demonstrate and validate a system as operational prototype for the main tsunamigenic regions in the Indian Ocean, the Mediterranean, and the North Atlantic. Technology transfer is important.

A eligible consortium needs to include at least two partners from EU countries. There needs to be a good balance of European and non-European countries, with partners of non-European countries contributing significantly.

The call aims at a large STREP, which by building upon existing and upcoming infrastructure and under the coordination of UNESCO I prototype system. The transferability of the technical solution to multiple tsunami prone regions is important. The proposal also

The focus should be on software and service development and the system validation. Improvement of the speed of data transmission, as well as integration of networks are other assets of a good proposal. Moreover, the STREP should define standards for data exchange and demonstrate the adaptation to local needs. Collaboration with spec bordering the Mediterranean Sea to harmonize between for example the Indian Ocean and the Mediterranean Sea would be an assets, too.

In addition to the STREP, two to three SSA are expected, which help to enable INCO countries to collaborate with the STREP. These SSA should be non-technical, and could include training as well as studies related to applicability of systems

The total budget is 5 MEUR and there is a chance that it will go up to 6 MEUR. Originally, Guy Weets had asked for 12 MEUR to have one very visible IP, but this was not accepted. The deadline for submission is April 25, 2006.

After the presentation, there was a question how the new project will be related to the GDAS project. Guy Weets replied that GDAS is a post-event system with the goal to inform politicians and other decisionmakers that a disaster has happened in order to trigger rescue and relief efforts. The new system aims at early warning.

With respect to GEO's role, Guy Weets stated that GEO could act as a catalyst and even do the coordination of the proposal teams. He also made the point that it will be very important to pick the right evaluators.

G. Papadopoulos informed the group that his institute decided to organize a STREP proposal with focus on the near-field, very rapid warning. Guy Weets at the end re-emphasized the importance of bridging the gap between science and service and application for good proposal.

2006 GEO Work Plan Tasks

a. Review of Implementation Steps

Jose Achache gave a brief presentation of the status of the Work Plan Sheets. He explained that the Work Plan was accepted by GEO-II without Work Sheets attached and as a living document. The current process is the building up of the GEO Matrix, which assigns member countries and organisation to each of the tasks. In the beginning, this effort seemed to be a small job but it developed in a vast activity going on over the whole planet. A large number of people are working on their contributions, and in a unique situation links between very different regions are appearing: for example, a person in New Zealand may suddenly be thinking about the relation of the contribution of New Zealand to a similar contribution from South Africa. Thus, GEO has facilitated an unprecedented process.

The original goal was to have the input by January 15, 2006, a deadline that soon was extended to February 15, 2006. However, input is still coming and it will be accepted and integrated. He stated that for Participating Organizations it was easier to respond than for countries, since they are more focused. Jose Achache made a point that some Participating Organisation misunderstood the exercise and assumed that the GEO Work Plan will generate funds for the activities, which is not the case. Therefore, in order to implement GEOSS, the contributing countries and organizations have to generate their own funds and resources for the activities they report in.

In the discussion, Hans-Peter Plag pointed out that also for Participating Organisations, a responsible process of identifying on-going activities that can be linked to the GEO Tasks is a slow and tedious process, which in many organizations also involves informing the organization's member of what GEO is, how it works, and what it aims for. Using the example of IAG, he reported briefly on the internal process in GGOS, emphasizing that IAG is solely based on voluntary contributions from a global network of institutions, groups and individuals, and stating that this process in the end led to the identification of several on-going and planned activities of relevance for some of the GEO tasks.

b. Review of the Task Sheets

- **i. Data recording and archiving (DI-06-01)**

There was some discussion of whether GEO actually should do something towards the database or whether the task should only facilitate the steps. There was also some discussion about the

leading organization, and Ezio Bussoletti emphasized the importance of having one responsible country or organization for each task.

- **ii. Global seimographic networks (DI-06-02)**

The task was introduced by Domenico Giardini, who pointed out the importance of seismographic networks for early detection of seismic events, though also admitting the problems of the initial underestimation of the magnitude of great earthquake. Hans-Peter Plag explained that recent results show that static displacements determined in near-real time from GPS observations can be used to get reliable magnitude estimates within 15 minutes of great earthquakes and asked to include GNSS in the task description. This led to a long and engaged discussion. James Devine and David Green strongly supported the inclusion of GNSS and requested to modify the title of the task sheet to reflect better what the goal is (improved determination of the true size of the earthquake and the displacement field in near-real time for better warning). The seismologist equally strongly rejected the request to change the task title and partly were not open for then inclusion of GNSS in the task. Domenico Giardini claimed that seismology can solve the problem and GNSS is not needed. This view was rejected by several participants. In the end it was decided that GNSS will be included in the task, recognizing that additional sensors are required in order to get the magnitude and displacement field right as early as possible after a great earthquakes.

- **iii. Free and unrestricted data exchange (DI-06-04)**

It was noted that for this task, all lead organizations were seismic and a request was made to include other organizations as lead organizations.

- **iv. High resolution maps and DEMs (DI-06-05)**

During the discussion of this task, the role of the GEO Secretariat for the task was discussed. Jose Achache pointed out that this task was in line with the general tasks for the GEO Secretariat. David Green replied that the GEO Secretariat can develop a plan, but since they are not going to implement the plan the implementation is ensured. He suggested IHO for this task as the or one of the lead organizations. Ulrich Wolf pointed out that IOC can lead the task, but IOC has a focus on the water, and not so much the coastal zone and adjacent land areas.

Jose Achache explained that the task has to be dropped if there are not enough resources to carry the task out, but since this is an important task, it should be clear that if dropped, the task will not be in the work plan for 2007.

The wording was changed to have an overview of the on-going activities, and Jose Achache suggested to include IGOS-P Coastal Zone, which Hans-Peter Plag complemented with the recommendation to also involve the CoP Coastal Zone.

- **v. Global tsunami hazards map (DI-06-06)**

G. Papadopoulos reported that the TRANSFER project is authorized for funding and will look at the first two tasks for the Med. and adjacent seas. He also indicated that IUGG has some funds for these tasks to be implemented in other regions. He also asked for a mandate from GEO to represent GEO and coordinate the GEO activities. Ezio Bussoletti suggested to ask the Executive Committee for such a mandate. Jose Achache stated that being the le such a mandate. However, Ezio Bussoletti was not as sure and recommended to ask the ExeCom explicitly. G. Papadopoulos also suggested IUGG as a lead organisation and to include the Bologna gang

together with Satake from Tsukuba. Ezio Bussoletti states that G. Papadopoulos is expected to take the responsibility for the task. David Green asked how the new activity is coordinated with the activities under the IOC ICG where a lot of work has already been done in Australia and other areas. G. Papadopoulos claims that all the catalogues are not in the same format, and task (1) will unify the format. David Green emphasize that there are efforts going on to harmonize the existing data bases, and he want to ensure that the work in the task is not going either to duplicate on-going activities or produce standards and formats that are inconsistent with what is done elsewhere.

- **vi. Multi-hazards approach to coastal risks (DI-06-08)**

Maryam Golnaraghi explained why WMO should lead this task: WMO is hosting a workshop in May 23-24, 2006, addressing multi-hazards approach for early warning in the coastal zone. Ezio Bussoletti emphasized the strategic political. Ulrich Wolf reported that IOC is implementing resolution 15, and in this frame plans to have an ad hoc Working Group as an umbrella for the tsunami activities, and a first meeting will be held on 31 May (a few days). The WMO meeting is strategic, looking not at technical details but more the overall picture of how multi-hazards systems can be implemented.

Later, Begonia Perez Gomez suggested to ask ESEAS to be included in the task as a leading organization together with WMO.

- **vii. International Charter on Space and Major Disasters (DI-06-10)**

The question is again who should be the leading organization. Jose Achache insisted that this task should be led by the GEO Secretariat. James Devine supported this view and declared that the US steps down from leading this task. Davide Stevens from the UN Office of Outer Space Affairs supported the lead of the GEO Secretariat.

- **viii. International Charter on telecommunication systems and Disasters (DI-06-11)**

In the discussion, it was questioned whether this task is very similar to DI-06-10 and therefore not needed. David Green expressed the systems and therefore a separate task is needed. Telecommunication is very important. Alain Retiere pointed out that the current charter is for response after disaster, not for early warning. Jose Achache suggested to have a post-event charter and not to include early warning.

Guy Weets informed that he later in the year will organize a public safety communication meeting in order to sort the issue of communication in crisis situations out. He later stated that he thinks the task is bound to fail due to the telecom market being highly competitive and unlikely to agree to a charter. In a crisis, one cannot rely on voluntary contribution under a charter; things need to be agreed upon before hand.

Alain Retiere suggests to have a charter that can be activated in case of a disaster. Ezio Bussoletti states that it is outside of GEO to do something when the immediate emergency is over. Davide Stevens pointed out that the access to the Charter on Space and Major Disaster needs to be improved, 80Ezio Bussoletti suggested

Hans-Peter Plag mentioned the importance of the SBAS systems for broadcasting of messages in the case of disasters, and again, Jose Achache indicated that earlier warning was no longer included in the task. This led David Green to reflect on the thought that early warnings are to be considered as parts of the whole disaster management cycle and not to be separated. Several participants emphasized the fact that early warning is under national responsibility while the

Charter on Space and Major Disasters aims on a regional or global access to necessary data in managing or understanding a major disaster.

David Green asked to bring for this task the WG together with the Architecture and Data Committee. Jose Achache responded that the WG could r relevant committees would look into specific tasks. Hans-Peter Plag used this comment to point out that all task were linked to a specific Committee while none of them were actually linked to the tsunami WG, and he asked whether the Committees will discuss the tasks and overwrite what the Tsunami WG discussed and decided. Jose Achache confirmed the fact that GEO-II had decided that the tasks are to be revised by the four Committees, and that these will do this, however, he expressed his believe that the Committees will consider the input from the Tsunami WG.

This discussion left the feeling that the work of the WG was nearly in vain since the relevant committees will look at the tasks again and potentially not considered very much of the input from the Tsunami WG.

GEO-II Follow-up

a. International Initiatives on Hazard Assessment and Disaster Management

In the morning of the second day, the Task sheets were briefly reviewed to ensure that all suggested changes were included. For Task DI-06-08, the ESEAS was not included as a lead organisation, and when Hans-Peter Plag pointed this out, Maryam Golnaraghi made a point that this task should be led by organisations with a lot of experience in public relations, such as WMO and IOC.

- **i. Update on UNOOSA-DMISCO Davide Stevens**

Davide Stevens presented the contents of the DMISCO paper, which addresses the establishment of an international coordination body for disaster management, i.e. the 'Disaster Management International Space Coordination Organization' (DMISCO). It is suggests to establish a Secretariat with about 10 members to serve the organization. In the subsequent discussion, Domenico Giardini made a strong point that this is a duplication of existing activities, just leading to one more secretariat but not more activities. It would be better to spend the money on actual activities and not new secretariats. The suggested user interface for DMISCO is a CoP, which would duplicate the User Interface of GEO. There were considerable concerns that DMISCO in fact would duplicate activities.

- **ii. Update on WMO disaster strategy Maryam Golnaraghi**

Maryam Golnaraghi gave a presentation on WMO with considerable background information on the many activities of WMO. More information is available at <http://www.wmo.int/disasters/>

- **iii. Update on UNOSAT activities Alain Retiere**

Alain Retiere presented the UNOSAT activities.

- **iv. Review of relevant international initiatives**

Ezio Bussoletti pointed out that all relevant international initiatives had already been covered in the presentations.

- **v. Discussion of GEO's position vis a vis these initiatives**

Ezio Bussoletti stated that the WG was not supposed to discuss GEO's position, this was up to the GEO plenary to do so.

- b. Scope of the Tsunami Working Group: Discussion of possible extensions to all-hazards**

There was a round around the table with each participant stating either an official opinion of the country or organisation they represented, or giving their personal opinion in cases where an official opinion was not available. After a few contributions, it became clear that most participants would favor a continuation of the WG on Tsunami Activities as it is for some more but limited time (if needed, several years), and to consider the establishment of a new All Hazards Committee. One reason in favour of such a committee brought forward by several participants and supported by many is the visibility of the Hazards topic itself in this field through a dedicated committee. David Green pointed out that 'All Hazards' was too broad and pledged for 'Multi Hazards'.

Despite the general support for a solution where the Tsunami WG would continue as it is and a new All or Multi Hazards Committee there were some worries concerning the new committee, which partly resulted from the fact that it was not clearly expressed what this committee would focus on (early warning, disaster management, hazards, risk analysis). There were some concerns that such a committee would introduce a new element in the GEO structure and could trigger the establishment of more committees. In particular, Peter Dexter envisaged that others might want to establish for example climate, health, or other committees. The strongest by Hans-Peter Plag. Among others, he pointed out that the new application-oriented committee would introduce a new element in the otherwise functional committees, potentially introducing a lot of overlap and unclear roles and interactions. If the All Hazards Committee would focus on coordination, it might well duplicate some of the Communities of Practice, which are part of the agreed-upon GEO User Interface. He also pointed out that a crucial element in GEO is missing, which would not be provided by the new committee, and that is an element providing the links from user requirements to system specifications and the assessment of the level to which the system actually conforms to the user requirements. Several participants, including James Devine and David Green supported the latter point as important for the GEO implementation.

Any Other Business

- a. Working Group Representation in International Events (e.g. EWCIII, IGARSS06)**

Since the chair Ezio Bussoletti surprisingly aimed to finish the meeting by lunch time (instead of 4:00 pm as announced on the agenda) and the clock had progressed to 3:00 pm (without lunch break), the chair did not take up this point on the Agenda.

- b. Date and Place of the next Working Group Meeting**

Ezio Bussoletti stated that it was too early to agree on the date of the next meeting.

- c. Others**

Ezio Bussoletti did not ask for any input under this point.